Algorithm for Computing Distances to a Received Point in an ADSL System

ABSTRACT OF THE DISCLOSURE

Method for computing distances to received data points. A preferred embodiment comprises determining a first point on a grid nearest to the received point, computing a second point closest to the received point inside a specified area, wherein the second point is a point in a first coset, computing a third, fourth, and fifth point, wherein each point is a member of a different coset and each point is the closest point in its coset to the received point, and computing a distance from the received point to each of the second, third, fourth, and fifth points.